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ABSTRACT

This student booklet, part of a series of seven instructional materials dealing with the history and culture of Armenian Americans, introduces students in grades 5 through 9 to traditional Armenian church architecture. The material is presented through a brief reading on the elements of Armenian church architecture, a series of four worksheets, and the construction of a model of the 7th century church of Hripsime. The worksheets involve students in examining floor plans, wall structure, identifying features of Armenian architecture, and comparing pictures of Armenian churches in the United States. Materials for construction of the 7th century church include a photograph of the church, patterns, and illustrated instructions for assembling the church. The booklet may be used independently of the other materials in the series. (KC)

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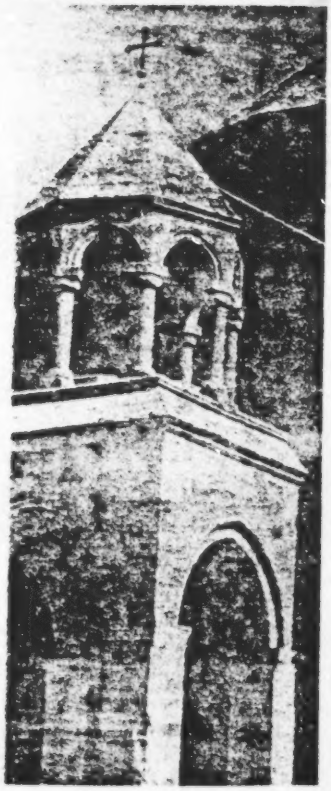

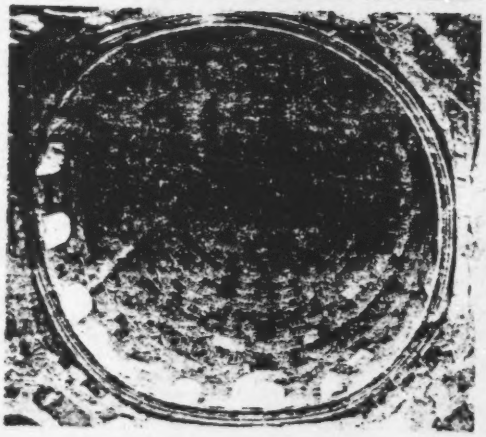

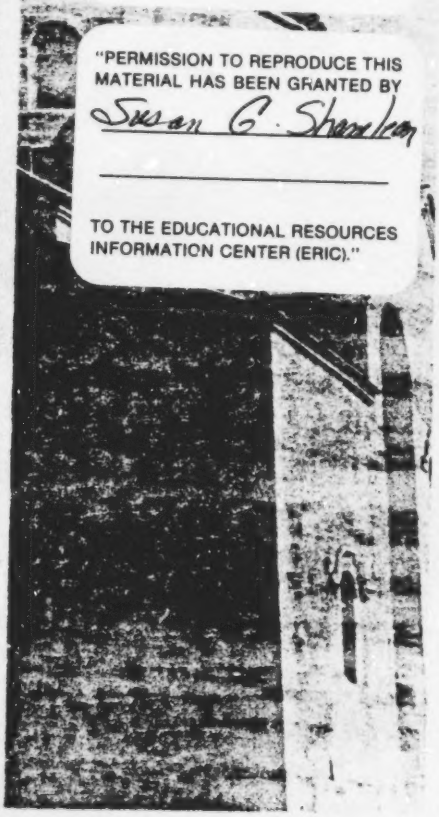

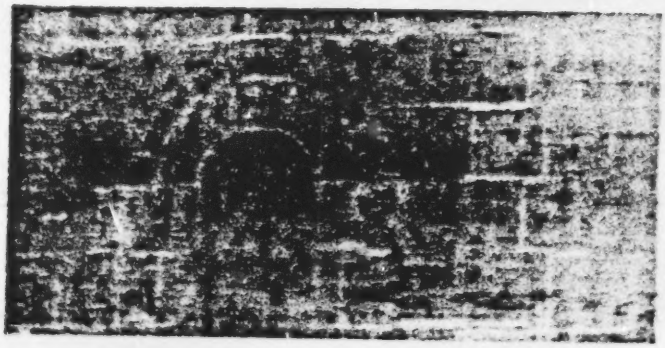

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# Elements of Armenian Church Architecture

*MOSSIK HACOBIAN — A.R.S. Armenian Ethnic Heritage Project*

## TO PARENTS AND TEACHERS

This booklet is an introduction to traditional Armenian church architecture for children in grades 5 through 9. The material is presented through a short reading, a series of four worksheets, and the construction of a model of the 7th century church of Hripsime, which is still in use today in the town of Echmiatzin, Armenia. The construction of the model can be done individually or by groups of 2 or 3 students for purposes of motivation, understanding and review of the information in the booklet.

The finished model will make a handsome display in the home or in the classroom.

## CLASSROOM USE

In the classroom this booklet can best be used over seven session as outlined below:

Session 1: Classroom reading on pages 3-5 and worksheet 1 (page 6). You may need two sessions to complete the reading.

Session 2: Review the reading material by doing worksheets 2 and 3 (pages 7-9) in class.

Session 3: Worksheet 4 (pages 10-11) and classroom discussion. If you choose to do the optional research project on page 11, schedule another session after completion of the model.

Session 4: Begin construction of the model. Be sure to start the dome (step 12 of the instructions) so it will be ready for the next session.

Session 5: Complete construction of the model.

Session 6: Paint and decorate the models. You may not need this session if students do this work at home.

Session 7: Presentations of optional research projects (page 11).

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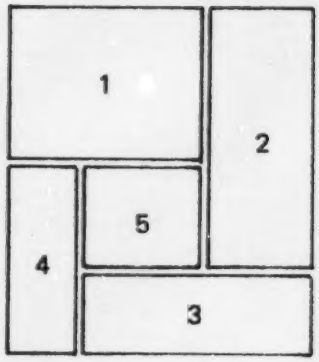
**ON THE COVER**

1. Cone-shaped roof and drum of Saint Hripsime Church
2. Southwestern corner of the church
3. Stonework
4. Belltower
5. The dome, seen only from inside the church



# ELEMENTS OF ARMENIAN CHURCH ARCHITECTURE

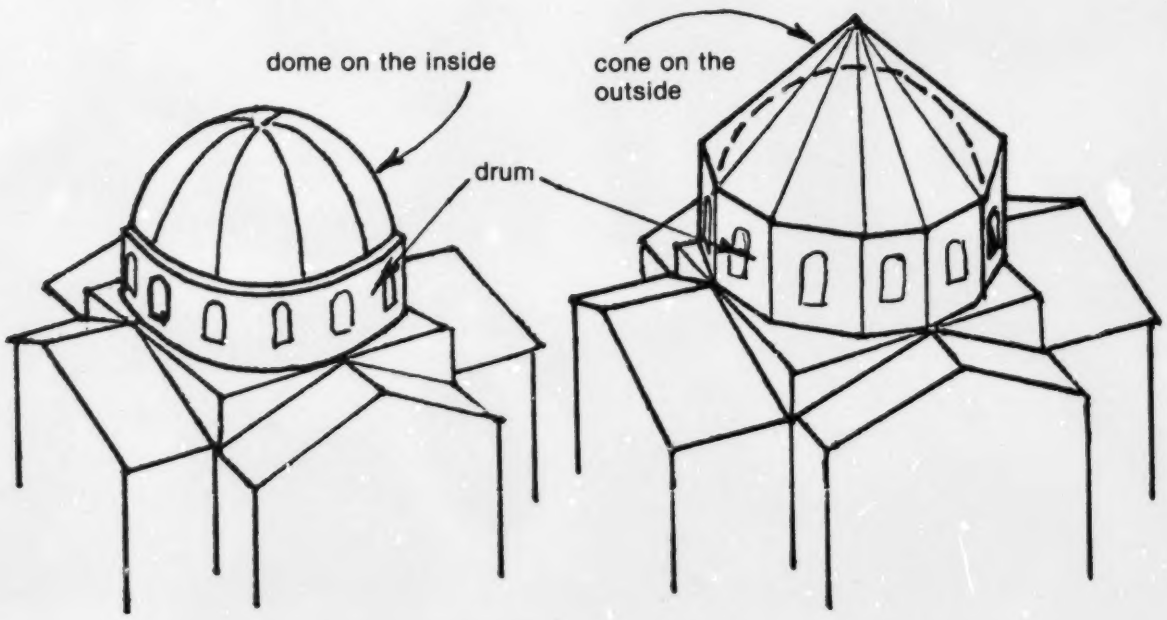
Armenians have been building churches since the 4th century when they accepted Christianity as their national religion. Hundreds of churches were built in cities, villages and remote monasteries in the mountains. Old pagan temples were destroyed to make way for churches. Some churches took decades to complete. Today, if you travel through Armenia, you can still see these churches. Some were ruined by earthquakes and the destruction of war; others fell victim to the slow destruction of time and weather; but many have been repeatedly restored and rebuilt and are still in use today.

Between the 4th and 7th centuries Armenian architects developed a unique type of church architecture, different from churches built in other Christian countries. Today, when Armenians build churches in America or other parts of the world, they still use many of the elements of their traditional church architecture.

How can you recognize a traditional Armenian church? Look for the following *four* basic elements or features:

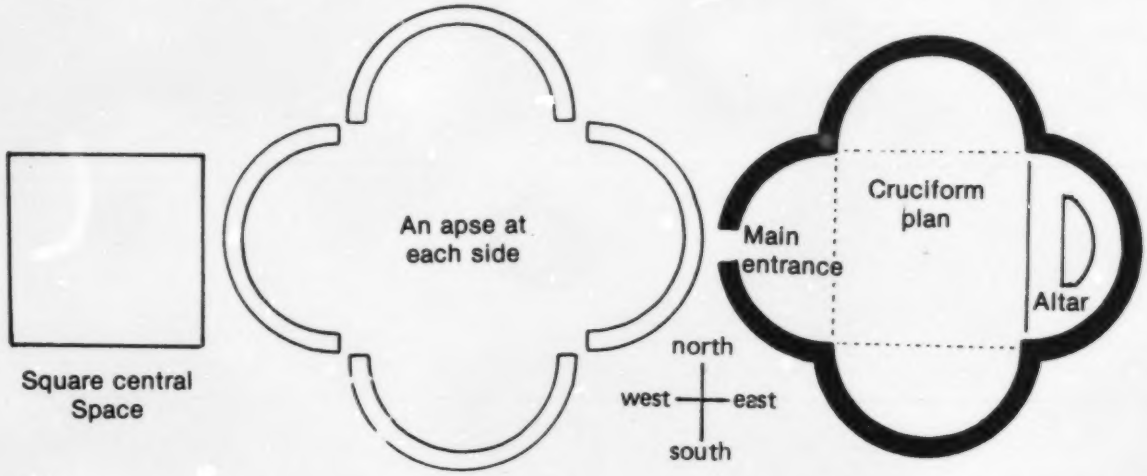
**1. The Dome and the Drum**

On the outside, or exterior, of the church you will easily recognize the *cone-shaped roof* over a circular or polygon-shaped *drum* rising above the church structure. Once you go inside the church you will see that inside the conical roof and its drum is a dome usually located above the center of the church.



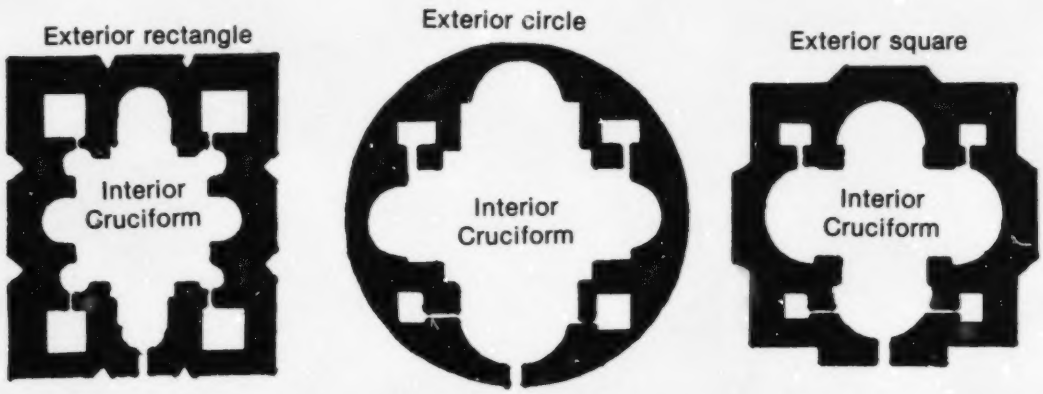
## 2. Cruciform or Cross-shaped Plan

If you could stand on the roof of the church and look down inside you would see the building's *floor plan.* The floor plans of most Armenian churches are in the shape of a cross symbolizing Christianity. In its simplest form, a *cruciform* plan consists of a square central space with a semi-circular space called an *apse* at each of its four sides. The church altar is usually in the eastern apse and the main entrance to the church is at the opposite end, in the western apse.




*The cruciform plans of traditional Armenian churches are similar to the Greek cross +, where all four sides are equal in length.*

Sometimes the cruciform plan is more elaborate and small rooms are added for the clergy to use for dressing and for storage. In such cases the inside shape of the church is not the same as the outside. The spaces between the outside stone walls and the inside stone walls are filled with stone and mortar (a cement mixture), which binds the two walls together into a solid structure. Complete floor plans of the churches thus look like the ones below. The inside is cruciform, but the outside is square, rectangular, or circular.



### 3. Made of Stone

A very strong and most plentiful building material in Armenia is a pink or pinkish-grey volcanic stone called *toof* or *tufa*. Every stone block for every church in Armenia was cut out of a volcanic mountainside by hand using hammers and chisels. Traditional Armenian churches are thus made of stone and usually have a pink or pinkish grey color.

The men who cut the stones are called *stone masons.* Armenian stone masons became so well known for their careful cutting and fitting of stone that they were engaged in this work in many places by the Byzantine, Persian and Arab empires that ruled over Armenia. The masons built not only churches but also palaces and walled fortifications to protect cities from invasions.

### 4. Small in Size

Armenians did not build large cathedrals as did the Europeans in later centuries. Instead they built small churches for each village and city neighborhood, for the use of the king and his family, or as part of a monastery. The construction of a church was usually funded by someone in the royal family or a local prince.

**ROYAL SPONSOR** — *Many Armenian churches displayed portraits of their sponsors. When in the late 10th century Queen Khosrovanoush sponsored the construction of the Holy Cross Church in the village of Haghbat in northern Armenia, she dedicated the building to her sons Smbat and Gourgen. Pictured above is a sculpture from the church's east wall showing the two princes holding a model of the church.*

**WORLD-FAMOUS ARCHITECTS** — *The 7th century church of Zvartnotz in Echmiatzin, Armenia, included among its sculptural decorations carvings of the architect and stone masons who built the church. Two of these stone portraits showing a mason and the architect holding some of their tools are pictured above. The sketch at right is of the architect and was drawn by historian Arakel Badrig after studying these carvings.*

*Armenian architects and stone masons were respected internationally and called upon for assistance from time to time by foreign rulers.*

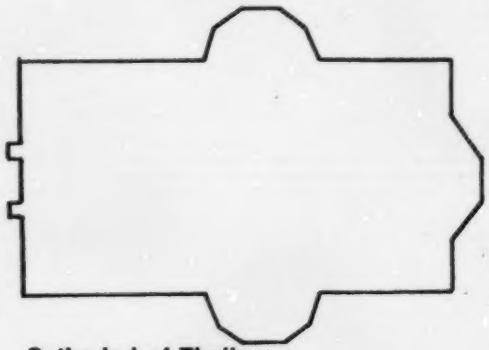
**ELEMENTS OF ARMENIAN CHURCH ARCHITECTURE — Student Worksheet No. 1**

Name _____ Date _____

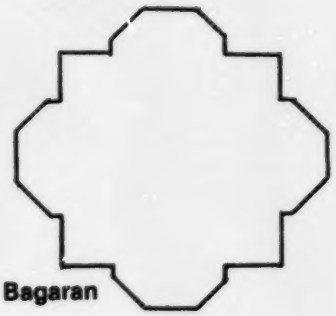
The floor plans at the right side of the page are examples of three *exterior* plans of traditional Armenian churches. The drawings at the *bottom* of the page are the *interior* plans for the same churches. Each looks different from the other, but if you look carefully you will see that all three interior plans have a basic *cruciform* shape.

**Directions:**

1. Cut off the drawings at the bottom of the page and cut out the interior plans along the outside lines.
2. Look carefully at each exterior plan. Center each interior plan over its matching exterior plan and paste the two together.
3. Draw in where you think the altar of each church should be using the compass directions below for reference. At the opposite end from the altar draw in the main entrance to the church.
4. The spaces between the *interior plan* and the *exterior plan* are the solid walls of the church. Fill in these spaces with a dark color pencil as has been done with the columns in two of the interior plans. What you now have are complete *floor plans* of three Armenian churches.



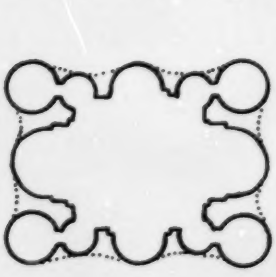
**Cathedral of Thalin**

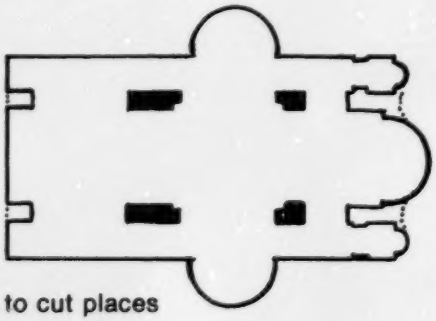


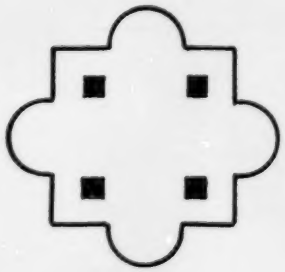
**Church of Bagaran**

**Cathedral of Avan**

**cut along dotted line and cut out each plan below**







Cut along dotted lines in hard to cut places

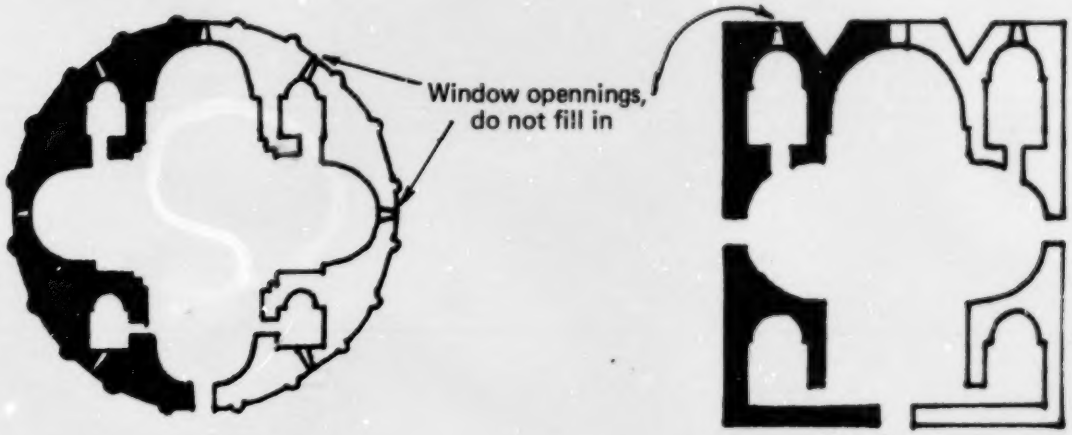
**ELEMENTS OF ARMENIAN CHURCH ARCHITECTURE — Student Worksheet No. 2**

Name _____ Date _____

**Directions:**

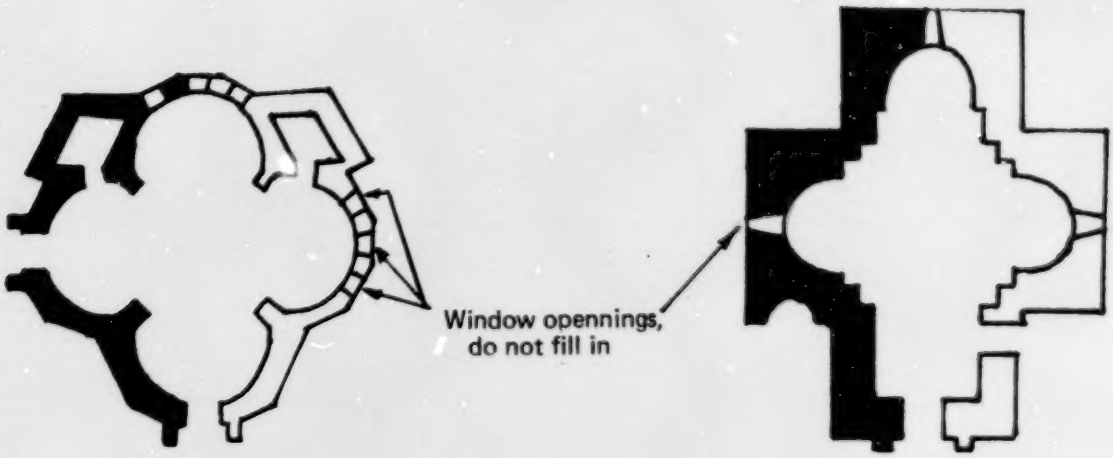
1. The walls of the four church plans on this page are only partly filled in. Using a black felt tip or ball point pen, complete the drawings as architects do.

2. Label the interior (inside) and exterior (outside) shape of each church.




Interior Shape _____ Interior Shape _____

Exterior Shape _____ Exterior Shape _____




Interior Shape _____ Interior Shape _____

Exterior Shape _____ Exterior Shape _____

Name _____ Date _____

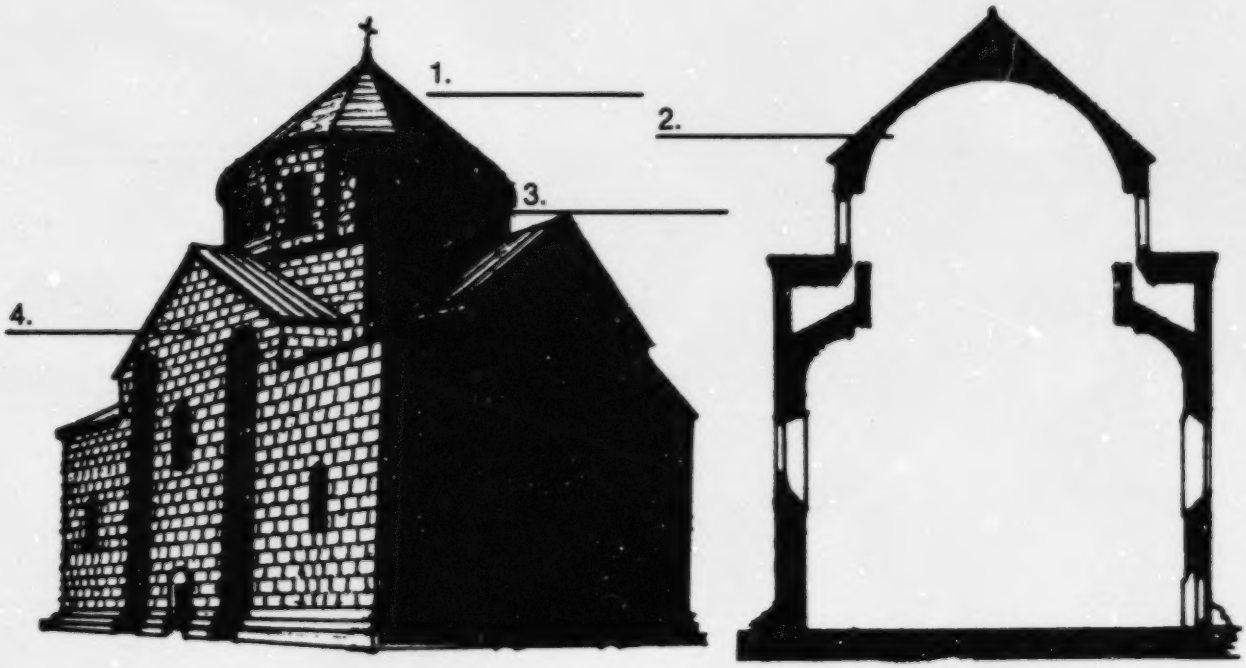
# THE HRIPSIME CHURCH IN ARMENIA

Below are sketches of the Hripsime church in the town of Echmiatzin in Armenia. It is famous because it is an outstanding example of traditional Armenian church architecture. It was built in 618 A.D. (over 1350 years ago).

**Directions:**

1. Identify as many features of traditional Armenian church architecture as you can by writing the name of each feature beside it on the lines provided. Notice that sketch #1 shows the exterior shape and materials used. Sketch #2 shows the vertical space of the interior. It looks as if you have sliced through the roof, dome and walls, so you can see the profile of the building.

2. On the back of this sheet, answer the true or false questions.




Sketch #1

Sketch #2

*(Continued on other side)*

**Underline True or False:**

1. Traditional Armenian Churches have flat roofs. **True** **False**
2. Churches in Armenia are made of stone. **True** **False**
3. The dome of an Armenian church is round on the outside. **True** **False**
4. The dome of an Armenian church rests on a structure called a "drum". **True** **False**
5. The dome is usually at the middle of the church and not at one end. **True** **False**

**ELEMENTS OF ARMENIAN CHURCH ARCHITECTURE — Student Worksheet No. 4**

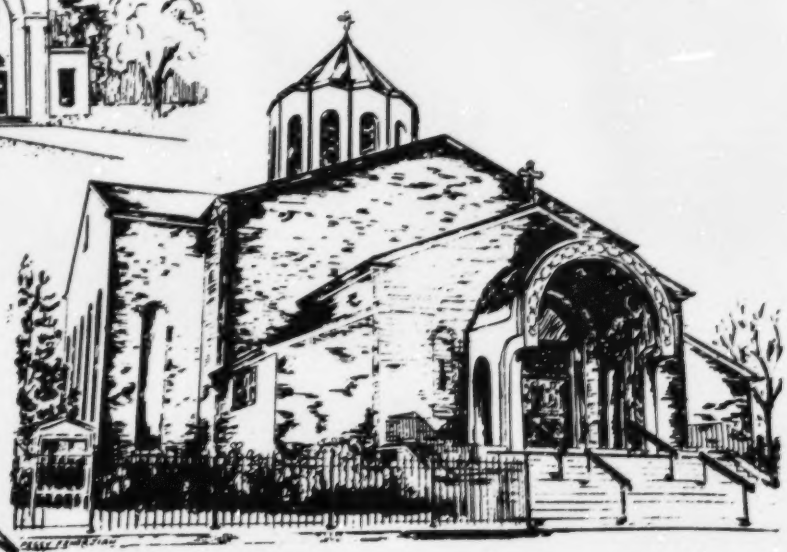
Name _____ Date _____

On this page are drawings of three Armenian churches built in the United States in the 20th century. Although they are very new, they contain some of the elements of traditional Armenian churches. List here as many of these features as you can recognize in the drawings:

1. _____ 2. _____

3. _____ 4. _____

**Holy Trinity Church**
Cambridge, Mass.



**Saint Stephens Church**
Watertown, Mass.

**Armenian Church of Our Saviour**
Worcester, Mass.

*(Continued on other side)*

Armenian churches do not always have traditional elements. In the United States, for example, many Armenian communities purchase existing American church buildings and, with little physical change, use them for Armenian church services. Also, in newly built Armenian churches, often high construction costs make the use of traditional features such as the dome and the cruciform plan very impractical.

Compare *your* church with traditional churches by answering the following questions:

1. Does it have a conical roof? _____
2. Does it have a dome? _____
3. Does it have a drum? _____
4. Is it made of Stone? _____
5. Is the interior in the shape of a cross? _____

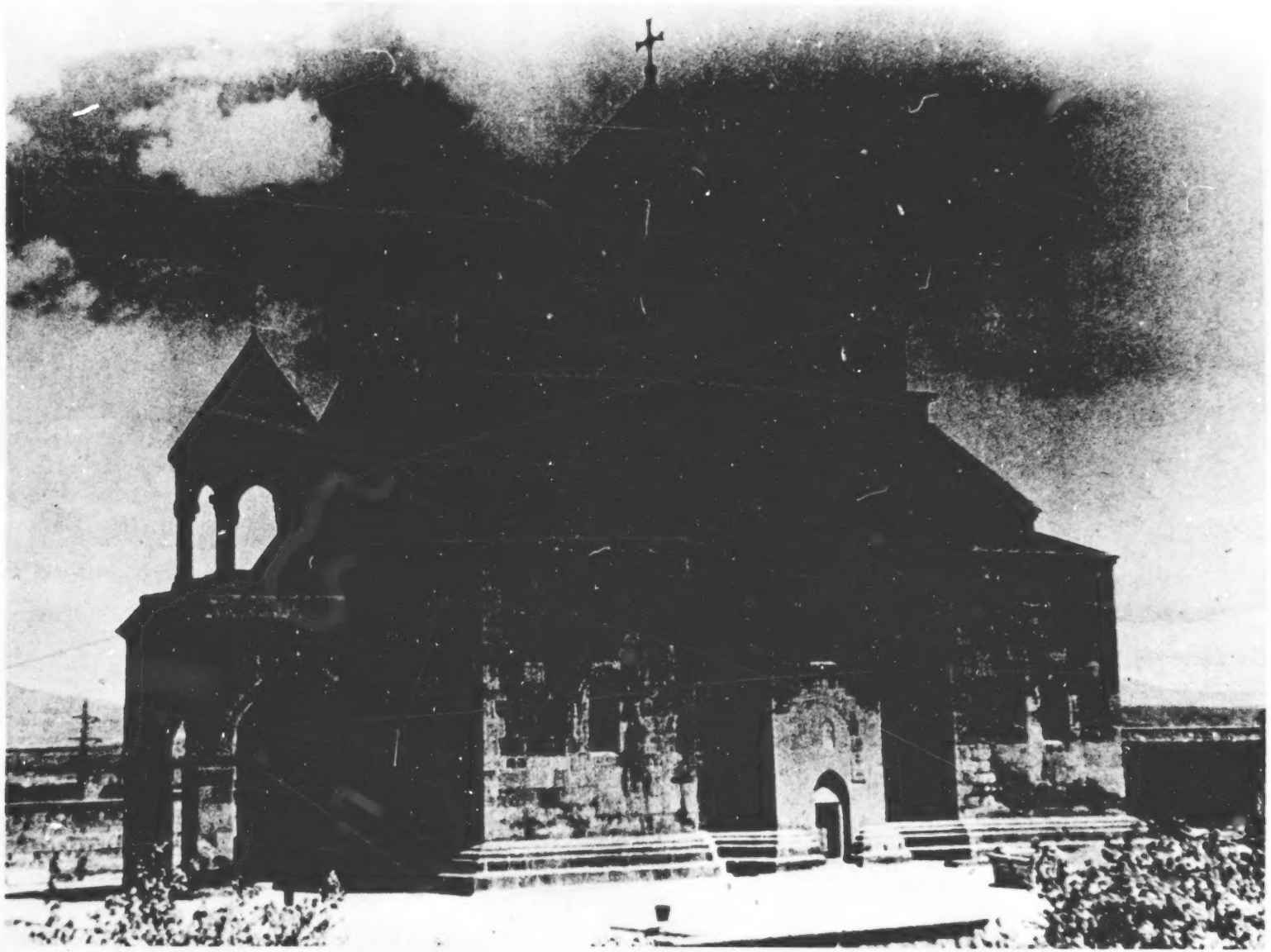
**For Class Discussion:**

What makes a church in the United States "Armenian"?
Is it important that an architectural design be traditional?
What else besides a building makes a church?

**Optional Research Project:**

Find out the history of the construction of your church.

1. Invite your priest, a trustee, or someone on the building committee of your church to your class. Find out how they selected the design for your church; how long it took to build; when was it completed; what it was made of; and how much it cost.
2. Find and display plans and photos of your church.



**SAINT HRIPSIME CHURCH** — Construction of the church was completed in 618 A.D. but the belltower was not added until the 17th century.

## MATERIALS AND TOOLS NEEDED FOR CONSTRUCTION OF THE CHURCH MODEL

1. Sheets of corrugated cardboard available in art and stationary stores. You can also use the sides of empty corrugated cardboard packing boxes that students may have at home or can get from local stores. If you use regular cardboard you will find it easier to cut but it may not be rigid enough to hold its shape.

2. Carbon paper and rulers.

3. Sharp scissors or cutting blades.

4. White glue, masking tape and small pins.

5. Old newspapers and a plastic ball about 6 inches in diameter.

6. Container for diluting glue with water.

7. Cup or small bowl.

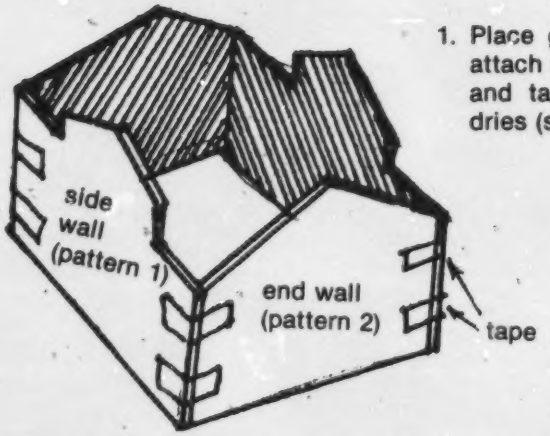
**ELEMENTS OF ARMENIAN CHURCH ARCHITECTURE**
**Instruction for construction of church model**

Name _____ Date _____

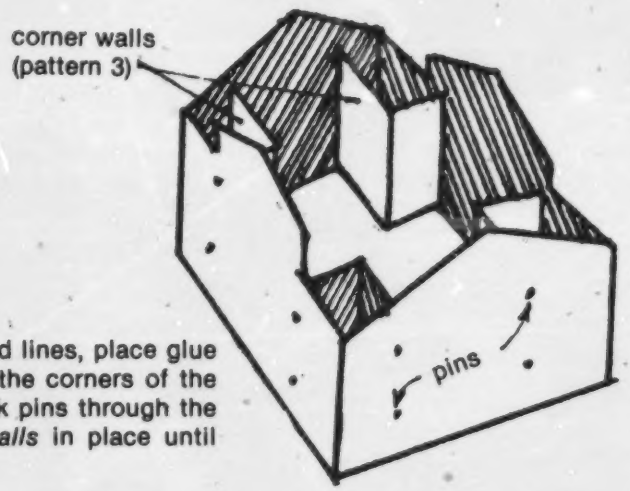
When an architect designs a new building, he usually builds a small model of his design to see what the finished building will look like. Making a model of an existing building is also useful in that it helps us see what the building is like, especially when it is located in a distant country such as Armenia.

To construct a simplified model of the Hripsime church, follow the steps outlined below:

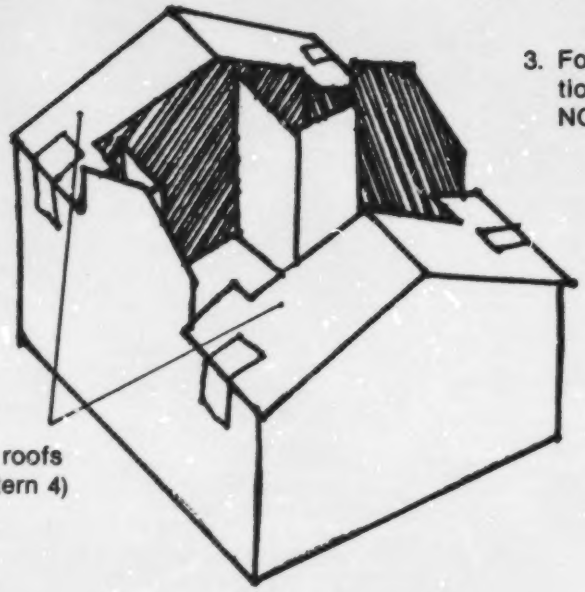
1. Follow the instructions on the patterns on pages 18 to 23 and trace carbon copies of the different parts of the church onto sheets of corrugated cardboard. You can use the sides of empty corrugated cardboard packing boxes you may have at home or can get from a local grocery store.
2. Cut out your tracings using sharp scissors or a cutting blade.
3. Put the different parts together as shown below.



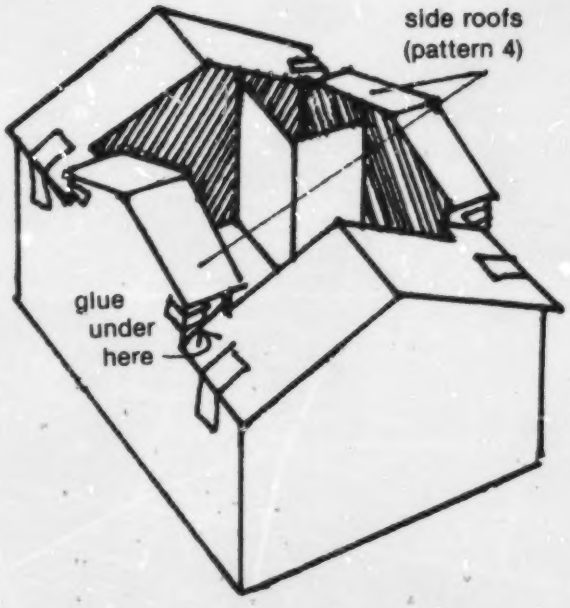

1. Place glue at the edges of the *end walls* and attach to the inside of the ends of the *side walls* and tape the corners together until the glue dries (see illustration at left).



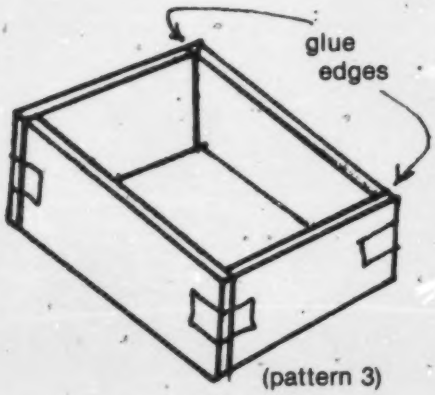

2. Fold *corner walls* along scored lines, place glue on long edges and attach to the corners of the model as shown at right. Stick pins through the outer walls to hold *corner walls* in place until the glue dries.



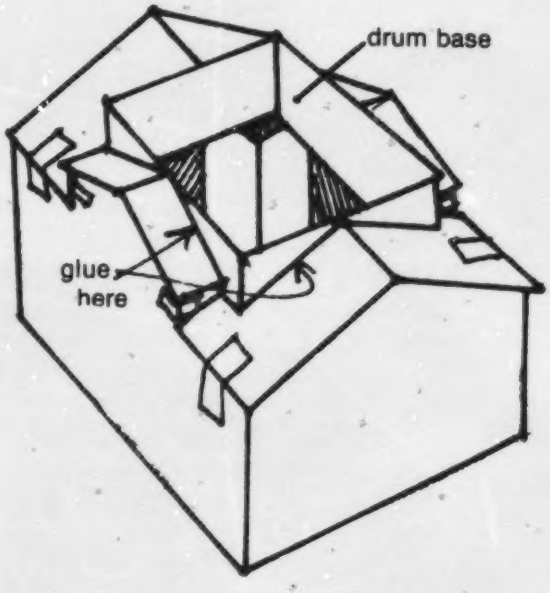

3. Fold *end roofs* along score lines, place in position and tape to the sides of the model—DO NOT GLUE.




4. Fold *side-roofs* along score lines, place glue along two bottom edges of each, place in position and tape to sides and to *end roofs* from below.

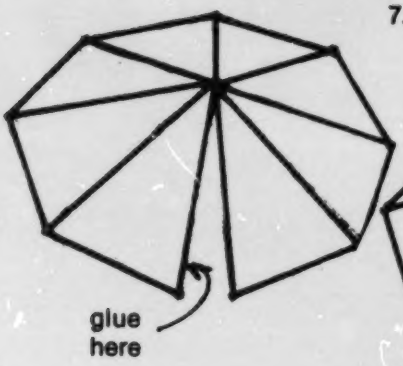


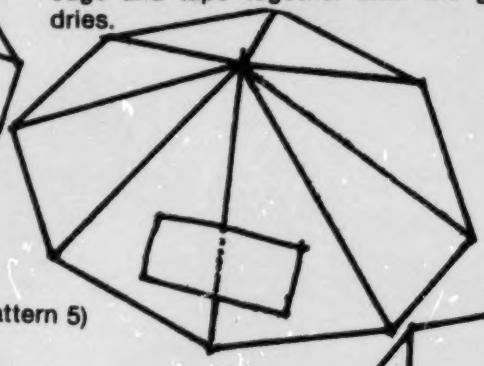

5. Construct *drum base* by glueing its four sides together in a spiral form, as shown, and tape corners until glue dries.



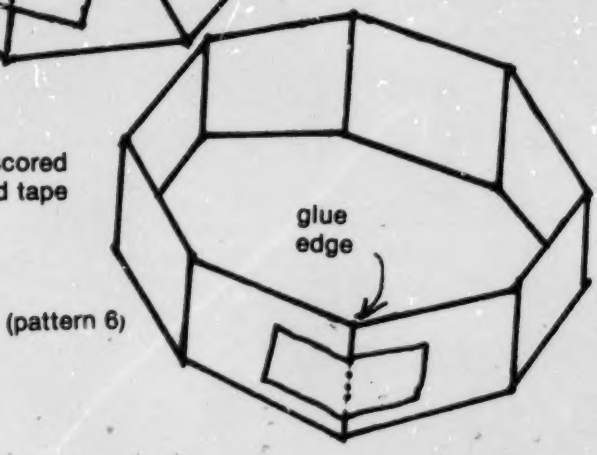

6. Slip *drum base* into position and apply a bead of glue along its junctions with the *end and side roofs*.

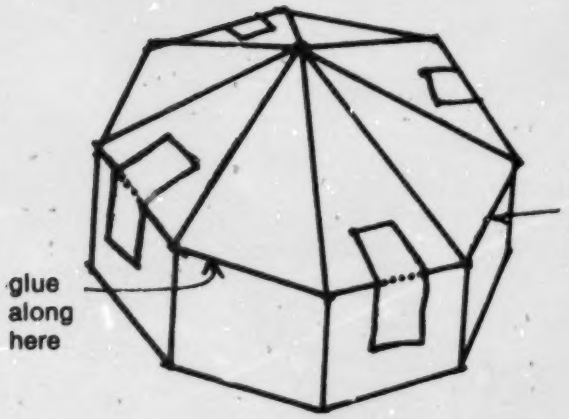
7. To construct the *conical roof*, fold along scored lines, place glue along one inside edge and tape together until the glue dries.




8. To construct *drum*, fold along scored lines, glue end edges together, and tape until the glue dries.

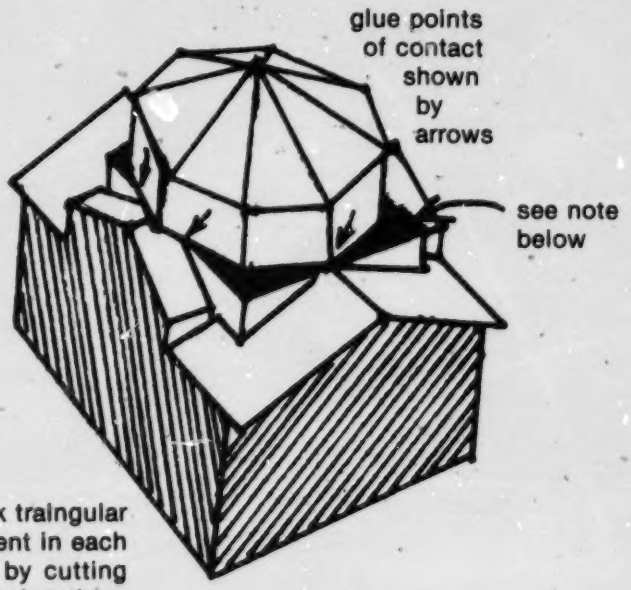


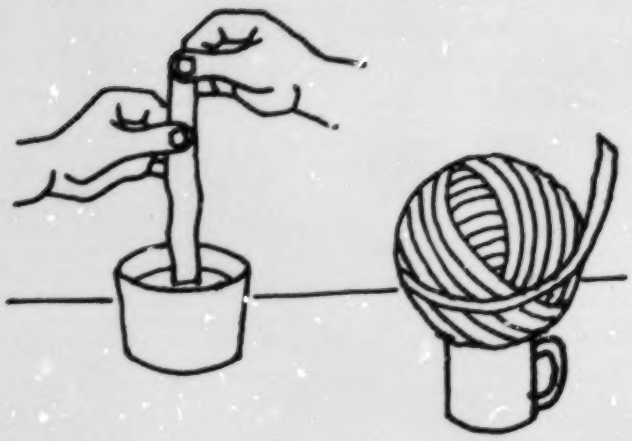

9. Attach *conical roof* to *drum* with glue, and tape until glue dries.

10. Place *drum* and *conical roof* on top of the building and mark points of contact with the *drum base*. Remove the *drum* and *conical roof*, place glue at points of contact, and place the *drum* and *conical roof* back in position and hold or tape down until the glue dries.

11. After all the glue has dried, remove all tapes. The roof and dome can now be lifted off as one piece to show the inside of the church.




**Note:** The openings just below the drum (Black traingular areas in the above sketch) will be different in each model. Make roofs for these openings by cutting triangular pieces of cardboard and trimming them so they fit the four corners snugly. Place glue on the edges of the *drum* and *drum base* and paste down the four triangular roofs.



12. To construct the *dome*, cut old newspaper sheets into strips about ¾ of an inch wide and about 2 feet long. Dip the strips of paper in a diluted white glue solution, drain and paste around a plastic ball about 6 inches in diameter.

    Rest the ball on a cup or bowl while you paste on the strips.

    Paste the strips in every direction until the ball is completely covered.

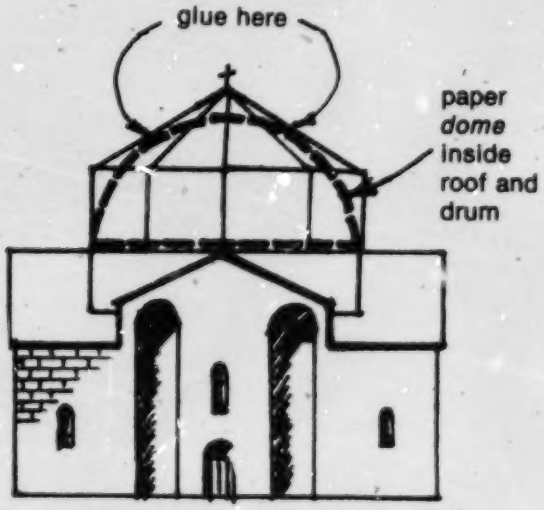
    Set the ball aside overnight to dry.

13. The paper strips will dry and stick together in the shape of the plastic ball. Draw a pencil line around the middle of this paper ball and cut along this line with scissors to obtain two *domes*. To start the cut, gently pierce the paper layer with your scissor without cutting into the plastic ball.

14. Using glue at points of contact, attach the *dome* to the inside of the roof, as shown. Leave the roof upside-down for a few minutes until the glue hardens.

15. Most Armenian churches are built of the toof (tufa) stone which comes in shades of pink, orange, brown and gray. You can now color your model using these colors and shade in the doors, windows, nitches, and install a cross atop the *conical roof*. You can also show the stonework with pencil or pen as in your 3rd worksheet.

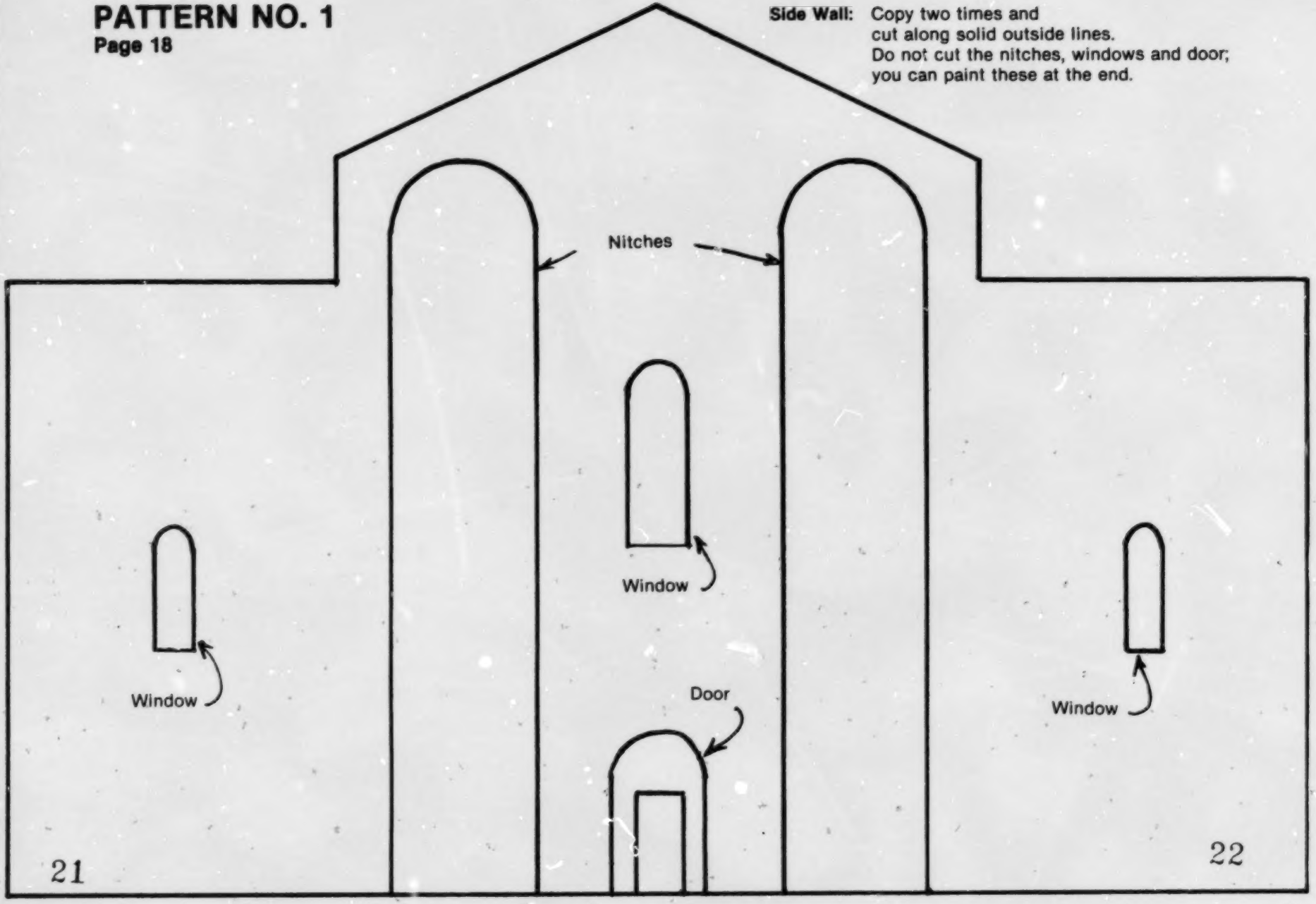
    Your model of the Hripsime church does not include the belltower (shown in the photograph on page 12) that was added in the 17th century.



# PATTERN NO. 1

**Page 18**

**Side Wall:** Copy two times and cut along solid outside lines. Do not cut the nitches, windows and door; you can paint these at the end.

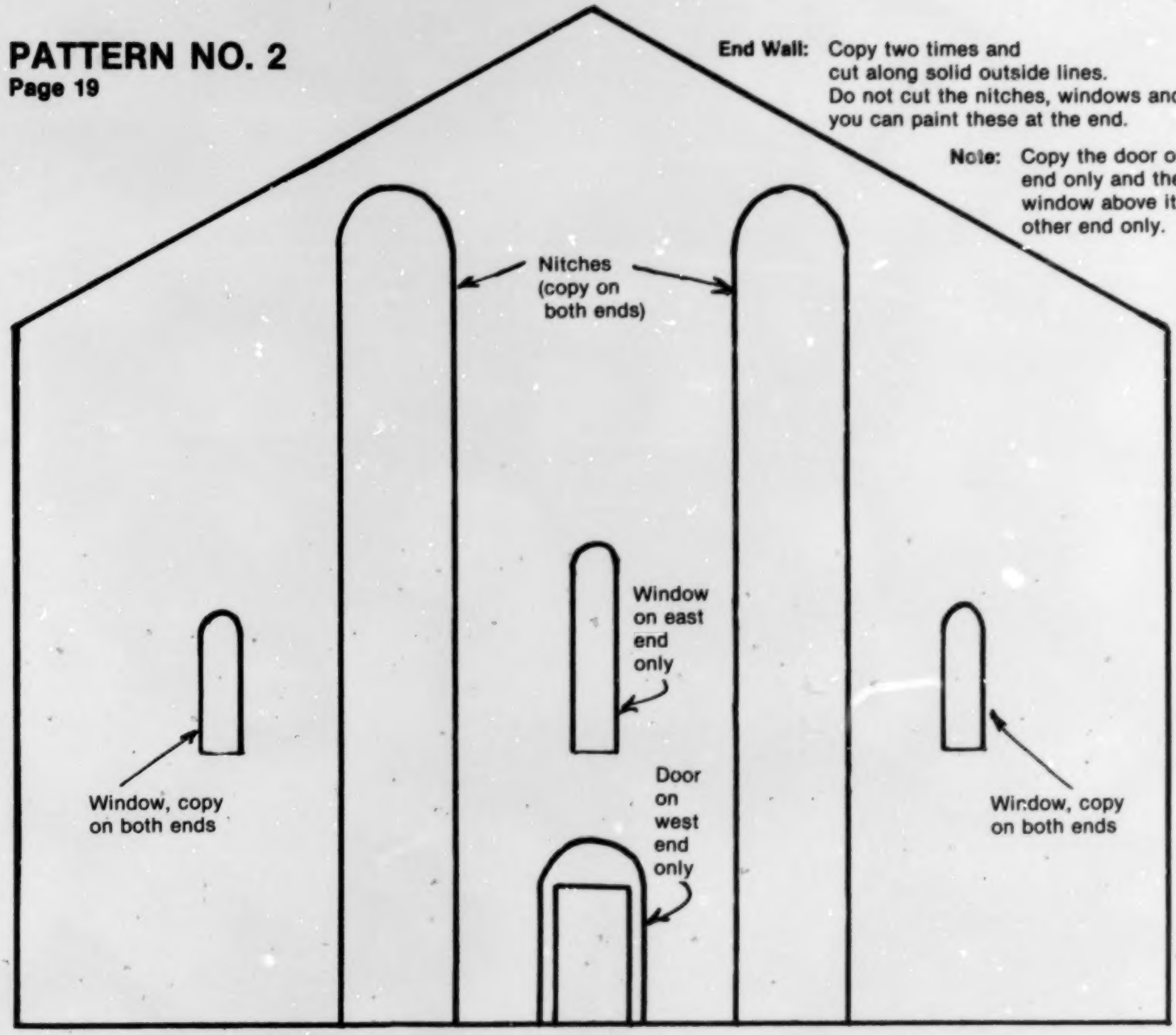


# PATTERN NO. 2

**Page 19**

**End Wall:** Copy two times and cut along solid outside lines. Do not cut the nitches, windows and door; you can paint these at the end.

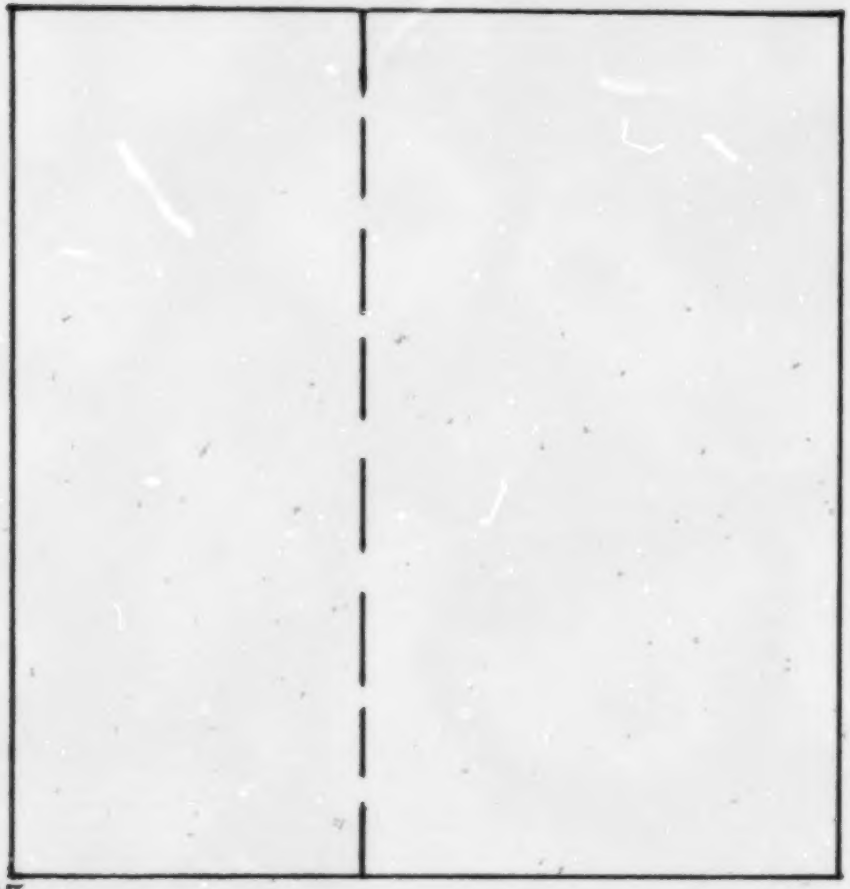
**Note:** Copy the door on one end only and the central window above it on the other end only.



# PATTERN NO. 3

**Page 20**

**Corner Walls:** Copy four times; cut along solid lines and score dashed lines.





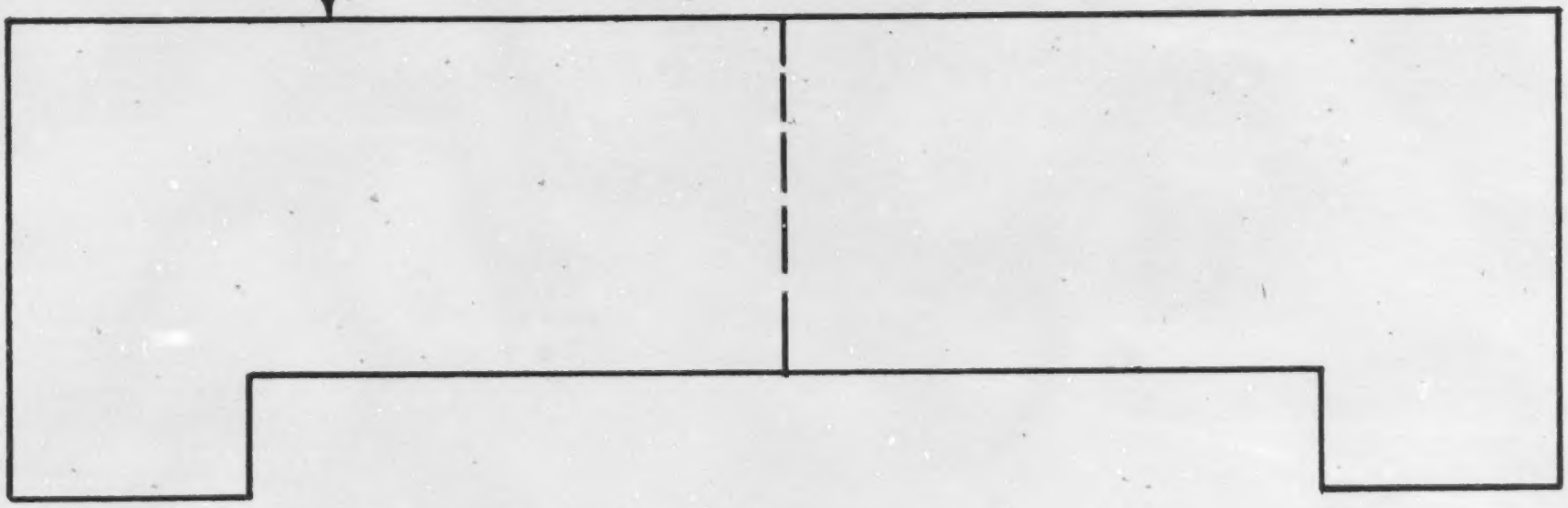
**Drum Base Walls:** Copy two times and cut along solid lines to obtain four separate sides, two long and two short.

# PATTERN NO. 4

Page 21

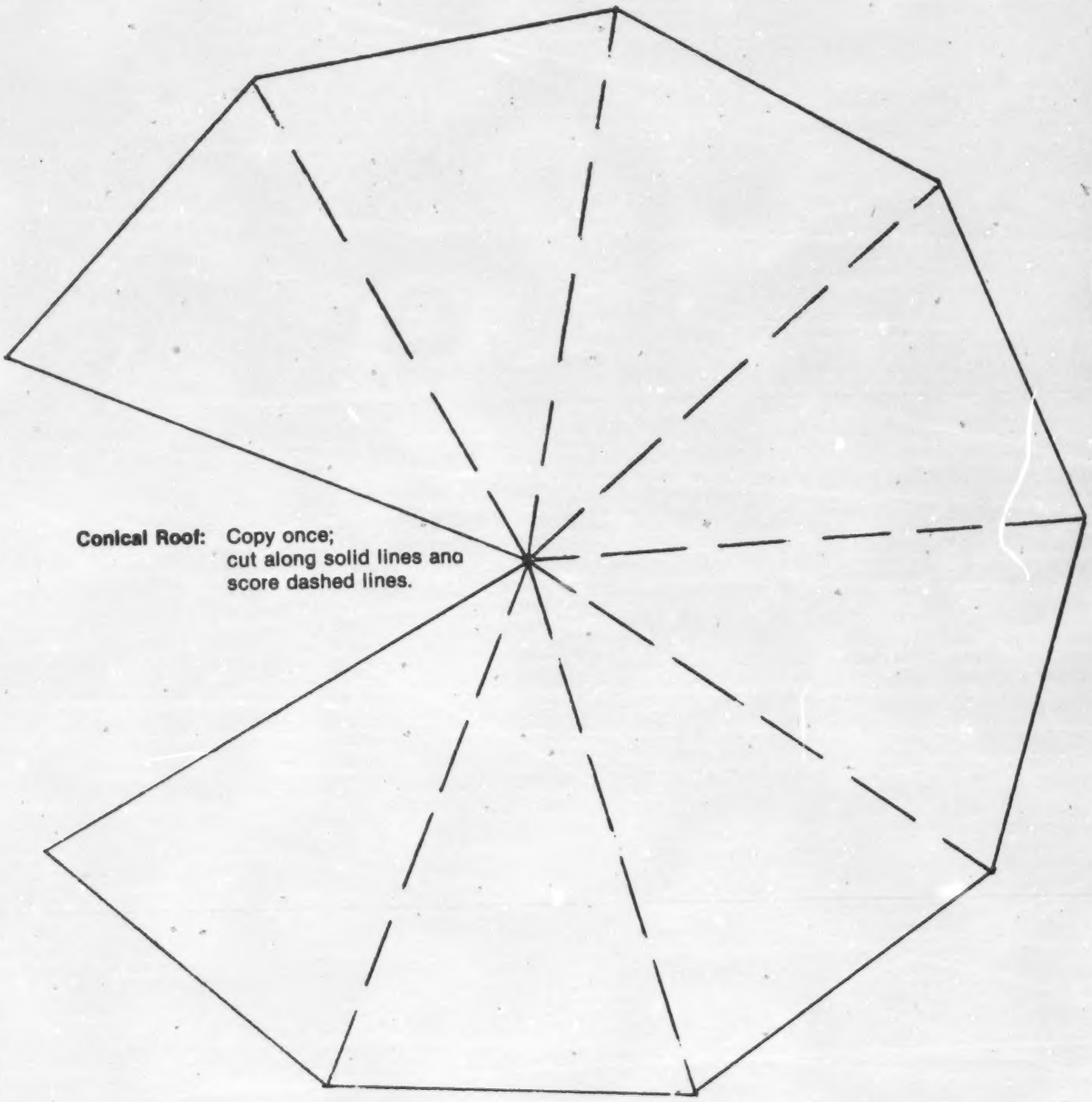
**End Roof** and **Side Roof:**

Copy two times;
cut along solid lines and
score along dashed lines.

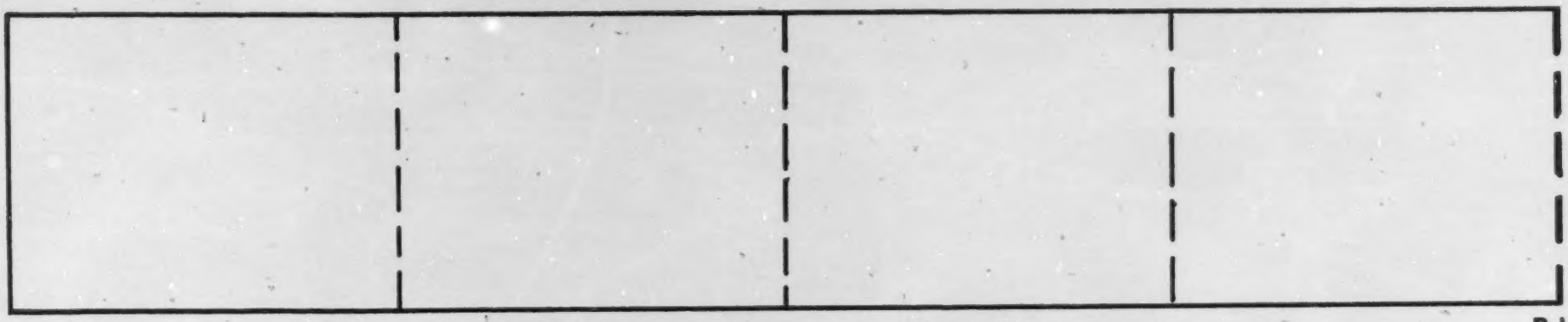


# PATTERN NO. 5

Page 22



**Conical Roof:** Copy once;
cut along solid lines and
score dashed lines.



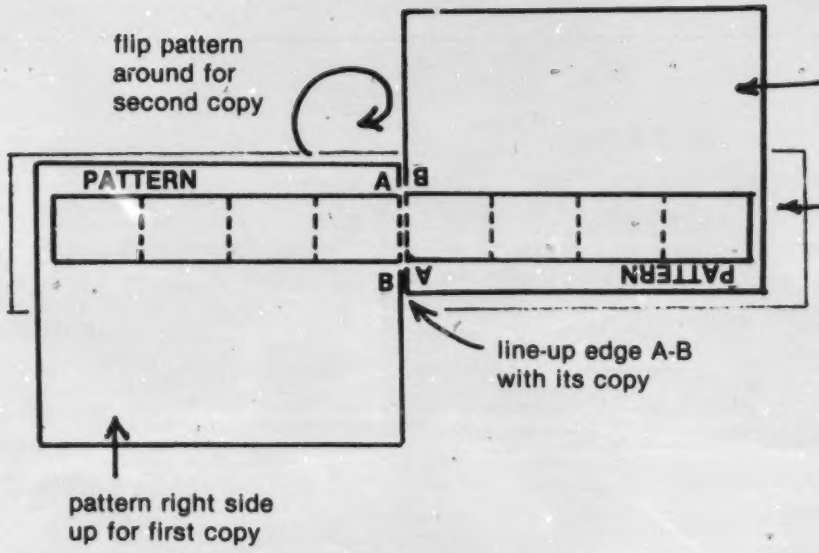

# PATTERN NO. 6

**Page 23**

**Drum:** 1. Cut off the right edge of the sheet along the line indicated.

2. Start at the left side of a long piece of corrugated cardboard and copy the above pattern.

3. Flip the pattern around so the dashed edge A-B lines-up with its copy on the cardboard and copy the pattern a second time.




4. When you finish, the two copies together should look like this:

Now, cut along solid lines and score dashed lines.

CUT ALONG THIS LINE

# Armenian Ethnic Heritage Project

Sponsored by the Armenian Relief Society – Funded by the United States Office of Education

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Children and teachers in the schools listed below participated in the trial teaching of some or all of the lessons in this booklet. Their efforts, questions and suggestions are gratefully appreciated.

Franklin Public School, Lexington, Mass.
A.G.B.U. Day School, Watertown, Mass.
Nerses Shnorhali Armenian School, Fairfield, Conn.
Sahag-Mesrob Armenian Church School, Providence, R.I.
Sahag-Mesrob Armenian School, Watertown, Mass.
St. Gregory Armenian School, North Andover, Mass.
St. Stephen's Armenian School, Watertown, Mass.
St. Vartanantz Armenian School, Ridgefield, N.J.

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Mnatzakanyan, S. and Stepanyan, N., **Architectural Monuments in the Soviet Republic of Armenia**, Aurora Art Publishers, Leningrad 1971.
Utudjian, E., **Armenian Architecture—4th to 17th Century**, Editions Albert Morance, Paris 1968.

**PHOTO SOURCES:**

Cover—**Yerevan and Its Environs**, by G. Asratian, photos by R. Mazelev; Aurora Art Publishers, Leningrad 1973, Plates 106, 107; and **Armenian Churches**, by P. Arzoumanian; Gulbenkian Foundation, Lisbon 1970, page 63.
Page 5, left—**Architectural Monuments of the Soviet Republic of Armenia**, by Mnatzakanyan and Stepanyan, Plate 63;
middle—**Drei Jahrtausende Armenien**, by Burchard Breutjes; Munich 1974, page 59;
right—**Armenian Costumes**, by A. Badrig, Plate 14-Figure 1.
Page 12—**Yerevan and Its Environs**, Plate 106.

# Materials Available From the Armenian Ethnic Heritage Project of the A.R.S.

1. **MY ORIGINS: Recording Family History**
   An introduction to the ideas of generations, family tree and plotting one's own family history and migration route to America. Includes worksheets and crossword puzzle review of basic concepts.

2. **LAND OF THE ARMENIANS**
   A study of Armenia's mountains, lakes, rivers and plateaus through the construction of a relief map. Includes worksheets and photographs.

3. **DISCOVERING HISTORY THROUGH ARTIFACTS: Kingdom of Tigran II "The Great"**
   How we can learn about earlier times by closely studying the artifacts people have left behind. Includes worksheets and photographs.

4. **ELEMENTS OF ARMENIAN CHURCH ARCHITECTURE**
   A study of Armenian church architecture through the construction of a model of a 7th century church. Includes worksheets and photographs.

5. **KHATCHKARS: Armenian Stone Crosses**
   Learning about a uniquely Armenian sculptural form by carving a plaster khatchkar (stone cross). Includes photographs.

6. **MEDIEVAL ARMENIAN COSTUMES**
   A study of Medieval Armenian history and its costumes. Includes figures and costumes to be colored and cut out.

7. **SIGHTS AND SOUNDS OF ARMENIA**
   Learning about Armenia today by matching sounds on a cassette recording with sights pictured in a booklet about Soviet Armenia.

8. **THEY CAME FROM ARARAT**
   An 80-slide presentation and accompanying cassette with narration and music on the origins and development of the Armenian community in America.

**Note:** All Materials include specific project directions.